

Chapter 1. Introduction

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The California State Water Resources Control Board (SWRCB) is proposing to adopt a General Order (GO) for General Waste Discharge Requirements for the Discharge of Biosolids to Land for Use in Agricultural, Silvicultural, Horticultural, and Land Reclamation Activities in California (the entire text of the proposed GO is included in Appendix A). Biosolids are defined as sewage sludge that has been treated, tested, and shown to be capable of being beneficially used as a soil amendment for agriculture, silviculture, horticulture, and land reclamation. The GO would establish a notification and permit review process for all persons and public entities intending to apply biosolids to land for purposes stated above. The GO defines discharge prohibitions, discharge and application specifications, transportation and storage requirements, and general procedures and provisions to which all land appliers would be required to adhere.

This chapter briefly describes the background and existing regulations for land application of biosolids in California. In addition, the chapter describes the purpose of the program environmental impact report (EIR) that is being prepared in accordance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines, the scope of issues to be addressed, and the organization of the EIR.

As indicated later in this chapter, the EIR has been revised from an earlier program EIR that was the subject of a lawsuit in 2000. Modified text is highlighted throughout the document using strikeout for outdated material, and underlining for new material. Changes are also indicated by a vertical dashed line in the right-hand margin.

Background on Biosolids Management in California

Treatment of municipal wastewater typically generates two waste streams: a liquid component and a solid or semisolid component. The liquid component, commonly referred to as effluent, usually is discharged to surface waters or percolation ponds or is used as irrigation water on some types of land. The solid or semisolid component, commonly referred to as sewage sludge, is treated to varying degrees and is typically incinerated, stored in drying beds or ponds, disposed of in landfills, or reused as a soil amendment on some types of land. The GO being considered by the SWRCB will apply to sewage sludges treated and tested to meet the definition of biosolids as presented above.

More than 50% of the biosolids generated in the United States are reused through some form of land application (Goldstein 1998). Land application differs from disposal in that biosolids are applied to condition soil and satisfy or supplement the nutrient requirements of crops or vegetation. Disposal options for biosolids typically include landfilling or incineration. Land application may involve the use of biosolids on traditional agricultural crops, on commercial tree farms, for reclamation of disturbed lands, or in the application of composted or thermally processed materials to public-use areas such as parks and residential landscaping. Certain precautions must be observed to ensure that land application does not endanger public health or adversely affect the environment. The U.S. Environmental Protection Agency (EPA) considers land application a beneficial use because it recycles the nutrients and organic matter contained in biosolids back to the soil (U.S. Environmental Protection Agency 1994).

Existing Regulations for Land Application of Biosolids

Land application of biosolids is currently regulated by EPA under Standards for the Use or Disposal of Sewage Sludge (Title 40 Code of Federal Regulations [CFR] Part 503, known as the Part 503 regulations), adopted in 1993. In designing the Part 503 regulations, EPA used a risk-based approach to develop appropriate treatment, storage, and application procedures for biosolids that are intended to protect human health and the environment from potentially dangerous or toxic constituents that may be present in biosolids. The Part 503 regulations regulate the final use of biosolids according to the constituents of concern, including the level of pathogen reduction, the degree of vector attraction reduction, and the concentration of pollutants in the biosolids. However, the Part 503 regulations apply to the generator of the biosolids, not the applier. Class A biosolids are treated sufficiently for all pathogens to be essentially eliminated, and Class B biosolids have been treated sufficiently for the level of pathogens to be substantially reduced but not completely removed. The regulation was developed through extensive scientific peer review, and public notification and comment were sought before the regulation was adopted. Many state and local agencies now rely on the Part 503 rules for regulatory guidance.

No single state agency regulates ~~land application of~~ biosolids management in California; biosolids recycling projects may involve oversight by ~~the SWRCB~~, the nine regional water quality control boards (RWQCBs) (Figure 1-1), the California Integrated Waste Management Board (IWMB), the California Air Resources Board, and the California Department of Food and Agriculture (DFA). The California Department of Health Services (DHS) acknowledges biosolids recycling efforts in its Manual of Good Practice for Landspreading Sewage Sludge (California Department of Health Services 1983). The IWMB has classified biosolids as a solid waste and thus exercises jurisdiction over the use and disposal of biosolids. The IWMB is responsible for regulating biosolids composting practices (14 California Code of Regulations [CCR], Division 7, Chapter 5), which requires recycling agencies to submit a permit application under the IWMB tiered



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Figure 1-1
Regional Water Quality Control Board Boundaries

permitting program. The IWMB designates a responsible agency as the local enforcement agency (LEA), which sets standards and enforces solid waste regulations. On the local level, some counties have made land application of biosolids exempt from solid waste regulations, and others specify where and how disposal of biosolids can be conducted. Some counties have banned the use of biosolids.

In an effort to streamline the RWQCB application and permitting process for the use of biosolids, the Central Valley and Lahontan RWQCBs developed separate general waste discharge requirements (WDRs) (also called GOs) for biosolids land application in 1995 and adopted their programs after adopting negative declarations under CEQA. Public agencies subsequently petitioned the SWRCB to set aside both RWQCB actions. However, biosolids application projects were permitted for approximately 50,000 acres under the Central Valley GO. The SWRCB remanded the Central Valley RWQCB GO in April 1996 as a result of CEQA challenges of the negative declaration but allowed for the continued land application of biosolids on sites for which permit coverage had been filed before April 1, 1996. In May 1996, a CEQA-based lawsuit was filed by the Central Delta and South Delta Water Agencies in the Superior Court of California, County of Sacramento, seeking that the SWRCB's interim permission for biosolids land application be rescinded under the GO unless an EIR is prepared. On June 12, 1997, the Superior Court decided that the SWRCB exceeded its authority in allowing the limited number of land application projects to proceed. On September 12, 1997, the Superior Court judge allowed for the continued application of biosolids on the subject sites and ordered the SWRCB to develop this statewide EIR for land application of biosolids within approximately a 3-year timeframe (by October 2000). The Lahontan GO was also subsequently remanded by the SWRCB, but no sites were permitted under this GO at that time.

In September of 2000 a lawsuit was filed by Kern County and other litigants against the SWRCB regarding the June 1999 version of this PEIR. This suit challenged various aspects of the adequacy of the PEIR. A hearing was held in July 2001 and a ruling was issued on August 2003. This ruling stated that the SWRCB generally complied with CEQA in developing and certifying the EIR, however it ordered the PEIR de-certified pending recirculation of a revised PEIR that addressed two new alternatives. This is discussed in more detail under Post-Certification Litigation below. (Kern v. SWRCB 2002).

Purpose of the Statewide Program EIR

The purpose of this statewide program EIR is to comply with the Superior Court order by evaluating the environmental impacts of the SWRCB's adoption and RWQCB implementation of a GO that would allow the issuance of general WDRs for the land application of biosolids. CEQA requires that state and local government agencies consider the environmental consequences of projects over which they have discretionary

authority before taking action on those projects (Pub. Res. Code 21000 et seq.). The project analyzed in this document is the SWRCB's discretionary action on the GO; the underlying activity associated with this action is the land application of biosolids. CEQA also requires that each public agency mitigate or avoid, wherever feasible, the significant environmental effects of projects it approves or implements.

An EIR is an informational document used in state, regional, and local planning and decision-making processes to meet the requirements of CEQA. A program EIR is an EIR that is prepared for a series of actions that can be characterized as one large program, in this case the issuance of statewide regulations governing conduct of a continuing program (14 CCR 15168).

The Scoping Process

Section 15083 of the State CEQA Guidelines authorizes and encourages an early consultation or scoping process to help identify the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in an EIR and to help resolve concerns of affected agencies and individuals. The intent of the scoping process is to identify the significant issues for study in the EIR and to determine the scope of the analysis of each issue. Scoping is designed to explore issues for environmental assessment to ensure that important considerations are not overlooked and to uncover concerns that might otherwise go unrecognized. Scoping has allowed the SWRCB to make the program EIR as complete and informative as possible for decision makers and those affected by the proposed action and its alternatives. This section describes the scoping activities sponsored by the SWRCB.

Notice of Preparation

A notice of preparation (NOP), which is required by CEQA, is the first effort to involve the public and interested agencies in the scoping process. The NOP describes the proposed project or program, indicates the types of environmental effects that could result from implementation of the program, and announces the start of an EIR review process under CEQA. The NOP encourages public participation in the environmental evaluation.

On October 21, 1998, the SWRCB sent an NOP of the statewide program EIR to more than 200 agencies and persons with potential interest in the program. Copies of the NOP were available for review at the SWRCB and each RWQCB office. Additionally, the NOP was posted at the SWRCB home page (<http://www.swrcb.ca.go>) and an announcement of its availability was forwarded to more than 300 individuals. The SWRCB developed a mailing list of agencies, organizations, and individuals interested in

receiving the NOP and scoping meeting announcements. The list also was used for distribution of this EIR. The NOP and the distribution list for the NOP are included in Appendix B.

Other Scoping Activities

Scoping Meetings

The SWRCB staff held scoping meetings on the following dates and at the following locations:

- g November 9, 1998 - Bakersfield
- g November 10, 1998 - Palmdale
- g November 16, 1998 - Davis

The scoping meetings were held to solicit input from agencies and interested parties on issues to be addressed in the program EIR. The scoping meetings included a description of the meeting's purpose, a description of the proposed GO regulatory program, a presentation of the conceptual environmental effects and program alternatives, an overview of the environmental review process and preparation of the EIR, and a public comment period. Those in attendance made comments on issues related to the GO program and on the alternatives proposed for the EIR. The scoping meetings were advertised in five publications throughout California, including a Spanish-language publication. In addition, a press release in Spanish about the scoping activities was distributed to several Spanish-language radio stations. A Spanish-speaking interpreter attended each scoping meeting to solicit input.

Technical Advisory Group

In addition to holding public scoping meetings and distributing the NOP, the SWRCB formed a technical advisory group (TAG) to provide input during preparation of the EIR and the GO. Meetings of the TAG have been held intermittently since August 1998. The TAG includes staff members of state and federal agencies (SWRCB, RWQCBs, California Department of Toxic Substances Control [DTSC], DHS, DFA, California Department of Fish and Game [DFG], IWMB, California Air Resources Board, Delta Protection Commission, EPA, U.S. Fish and Wildlife Service, and Natural Resources Conservation Service), representatives of publicly owned treatment works (POTWs) and land appliers, and representatives of special interest groups (California Farm Bureau Federation, Planning and Conservation League, California Communities Against Toxics, Association of California Water Agencies, Sierra Club, and California Environmental Health Associations).

RWQCB Roundtable Meeting

On September 16, 1998, the SWRCB staff sponsored a roundtable meeting in Sacramento to receive direct scoping input from staff members of each of the RWQCBs. The SWRCB solicited input from the RWQCBs on the GO, alternatives to the GO, and the scope of the program EIR. The RWQCBs also were informed of their role as “responsible agencies” under CEQA and their involvement in the EIR review process. Modifications to the GO proposed by the RWQCBs were included in the revised GO. The RWQCBs also indicated how they expected to use the GO after it is adopted by the SWRCB. In addition, the location and format of the public scoping meetings were reviewed and confirmed by the RWQCBs and the SWRCB.

Scoping Report

The NOP requested that recipients send comments on the scope of the EIR to the SWRCB to further identify issues for the EIR. The SWRCB received verbal comments from 67 individuals and letters of comment from 59 individuals or agencies. All of these comments were reviewed and a scoping report was prepared in December 1998 that summarized the proposed program, the scoping process, and issues raised during the scoping process. The report also contains all letters received and a summary of oral testimony received at the scoping meetings. A copy of the report is available for public review at the SWRCB offices in Sacramento (contact Todd Thompson at 916/657-0577) and each RWQCB office.

Issues to Be Addressed in the EIR

Based on input received during the scoping process, the SWRCB staff determined that the following issues are of concern and should be addressed in the program EIR:

- g** soils, hydrology and water quality,
- g** land productivity,
- g** public health,
- g** land use and aesthetics,
- g** biological resources,
- g** traffic,
- g** air quality,
- g** noise, and
- g** cultural resources.

Potential effects on public utilities and infrastructure (other than roads), energy, geology and seismicity were not raised as concerns in the scoping process. A significant number of comments were received on the GO itself, and a number of parties recommended

adding project alternatives. All comments were considered in the development of the contents of this program EIR.

Public Involvement

The public is encouraged to continue to be involved in the CEQA process beyond the scoping efforts. This draft program EIR is being circulated for public review and comment. In addition, the SWRCB will be conducting public hearings on the draft document. Comments received at the hearings or received in written form will be considered in the development of a final program EIR. Once the final EIR has been circulated, the SWRCB will receive public testimony on the GO before an official action is taken on its adoption or denial.

Post-Certification Litigation

The 1999 Biosolids PEIR was challenged by Kern County, the Central Delta Water Agency, and the South Delta Water Agency. On January 13, 2003, the California Court of Appeal issued its decision and remanded the case to the trial court for issuance of a directive (i.e., a writ of mandate) to the SWRCB to vacate its approval of the GO and its certification of the 1999 Biosolids PEIR. While finding that the SWRCB generally complied with CEQA in developing and certifying the 1999 PEIR, the court concluded that two viable alternatives had been rejected without proper basis. The "in vessel composting" alternative would limit the application of biosolids to Class A biosolids only. The "crop limitation alternative" would prohibit growing fruits and vegetables on land to which biosolids would be applied. In essence, the court opined that the 1999 Biosolids PEIR improperly dismissed these alternatives based of a comparison on their effectiveness in reducing environmental impacts to the GO, as mitigated. The court determined that when compared to the GO, without mitigation, these alternatives showed promise of less impact than the proposed GO. Therefore, they should have been included among the alternatives analyzed in the 1999 Biosolids PEIR. None of the other rejected alternatives were found to warrant this level of analysis.

The trial court issued its writ of mandate in mid-August 2003 ordering the SWRCB to revise the PEIR to discuss the two alternatives. These two alternatives, entitled "Class A Only" and "Food Crop Limitation", respectively, are discussed in Chapter 14 of this revised PEIR at the same level of detail as the other primary alternatives to the proposed GO.

Terminology

This report uses the terms "beneficial use," "reuse," and "application" interchangeably to describe the application of biosolids to land. The term "disposal" is not used to describe this activity in order to avoid confusion with the use of that term in the Part 503 regulations. Under Part 503, disposal involves the placement of biosolids on land at greater than the agronomic rate (i.e., the rate at which crops take up nitrogen). This includes placement in a landfill or a biosolids disposal facility.

This report identifies the following levels of impacts:

- g** a *less-than-significant* impact is an impact that is considered to cause no substantial adverse change in the environment and for which no mitigation measures are required;
- g** a *significant* impact is an impact that is considered to have a substantial adverse effect on the environment but for which feasible mitigation measures are available to reduce it to a less-than-significant level; and
- g** a *significant and unavoidable* impact is an impact that is considered to cause a substantial adverse effect on the environment and for which no feasible mitigation measures are available to reduce it to a less-than-significant level.

The program EIR also recommends mitigation measures. The State CEQA Guidelines (Section 15370) define mitigation as:

- (a) Avoiding the impact altogether by not taking a certain action or parts of an action.
- (b) Minimizing impacts by limiting the degree or magnitude of the action and its implementation.
- (c) Rectifying the impact by repairing, rehabilitating, or restoring the affected environment.
- (d) Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action.
- (e) Compensating for the impact by replacing and providing substitute resources or environments.

Mitigation measures proposed in this EIR were developed to meet these requirements.

Report Organization

The content and format of this program EIR are designed to meet the requirements of CEQA and the State CEQA Guidelines. The report is organized into the following chapters so that the reader can easily obtain information about the program and its specific environmental issues.

- g The Executive Summary presents a summary of the proposed GO program and its impacts; a description of impacts and mitigation measures, presented in a table format; and impact conclusions regarding growth inducement, irreversible environmental changes, and known areas of controversy.
- g Chapter 1, “Introduction”, provides a brief overview of the draft EIR.
- g Chapter 2, “Program Description”, describes the proposed GO program.
- g Chapters 3-12 are devoted to the particular issue areas identified above under “Scope of Issues to Be Addressed”. Each of these chapters describes for a particular issue area the existing conditions, or setting, before project implementation, specific impacts that would result from the proposed GO program, and mitigation measures that would eliminate or reduce significant impacts.
- g Chapter 13, “Cumulative Impacts”, summarizes the cumulative impacts of the GO.
- g Chapter 14, “Alternatives Analysis”, presents the alternatives to the proposed GO (including the No-Project Alternative) and provides an evaluation of each alternative in comparison with the GO.
- g Chapter 15, “Draft Mitigation Monitoring and Reporting Program”, presents the CEQA-required monitoring program.
- g Chapter 16, “Citations”, identifies the documents used (printed references) and individuals consulted (personal communications) in the preparation of this EIR.
- g Chapter 17, “Report Preparation”, lists the individuals involved in preparing this EIR.

Technical appendices are included at the end of the report.

Agencies That Will Use This Document

The SWRCB and each of the RWQCBs will use this EIR in considering their discretionary actions related to the GO program. These actions are as follows:

- g The SWRCB must review the EIR before certifying it as an adequate environmental evaluation under CEQA; once the EIR is certified, it will be one of the factors considered by the SWRCB in making a decision regarding the adoption of the proposed GO.
- g As responsible agencies under CEQA, the RWQCBs must ensure that the EIR addresses their environmental issues of concern; once the document is certified by the SWRCB and if the GO is approved for implementation, the RWQCBs will use the EIR as an element of the decision-making process when considering a notice of intent (NOI) filed by an individual requesting authorization for land application of biosolids under the adopted GO. If the RWQCBs find that the land application project falls within the scope of the program EIR, it can act as the CEQA compliance document for the new land application project, and mitigation measures in the program EIR will be applied to the project. If the RWQCB finds that the land application program does not fall under the scope of the program EIR, then a new initial study would need to be prepared, leading to either a project-specific negative declaration or a project-specific EIR.

Anticipated Conditions Following Adoption of the GO

The environmental impact discussions contained in Chapters 3-12 are based on an assumed set of conditions that would follow adoption of the proposed GO. POTWs would continue to generate and treat sewage sludges in compliance with waste discharge requirements. Much of this material would be treated to meet the minimum requirements of the EPA Part 503 Regulations and the conditions of the new GO so that it could be reused in agricultural, horticultural, silvicultural or land reclamation activities as biosolids.

Biosolids would be transported to land application sites by truck and then spread on the surface of the soil or injected into the soil; most of this material would be incorporated into the soil within 48 hours of spreading onto the land. The biosolids would be used as a source of nutrients and as a soil conditioner with the intention of growing either a crop or a vegetation cover. The material would not be spread onto the land as a method of disposal, with no intention of supporting vegetation. Limitations on the frequency and volume of biosolids application on any given parcel of land would be determined by the nitrogen and metals loading limits and other restrictions contained in the GO.

The impact analysis assumed a 15-year time frame for this land application process, knowing that the SWRCB would be evaluating the success of the program over the next five years. If necessary, adjustments could be made in the regulation at any time to address longer-term impact issues.

The programmatic impact analysis is intended to address potential environmental impacts at any location in the state that is not implicitly (wetlands, waterways, urbanized areas) or explicitly (exclusion areas) exempted from the GO. Therefore, this EIR also provides programmatic analysis for the existing biosolids land application operations in the state, including the 50,000+ acres permitted under the general waste discharge requirements of the Central Valley and Lahontan RWQCBs prior to initiation of this statewide GO effort.